AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions:

1. (Original) A method comprising:

receiving a stream of raw acoustic data at a client device;

framing the stream of raw acoustic data at particular intervals with alignment information to create framed acoustic data;

buffering the framed acoustic data;

waiting for a data request from a host device; and

providing the framed acoustic data from the client device to the host device in response to the data request.

2. (Original) The method of claim 1 wherein receiving the stream of raw acoustic data comprises:

receiving pulse code modulation (PCM) data samples from a plurality of synchronously interleaved channels each corresponding to a different sensor in a sensor array.

3. (Original) The method of claim 1 wherein framing the stream of raw acoustic data comprises:

counting a particular number of data samples in the stream of raw acoustic data;

identifying a time slot between two samples after the particular number of data samples;

inserting a frame boundary identifier and a frame sequence number in the time slot; and

repeating the counting, identifying, and inserting.

4. (Withdrawn) The method of claim 1 wherein buffering the framed acoustic data comprises:

storing the framed acoustic data to a buffer, said buffer having a particular size; and

dropping data if the buffer becomes full while waiting for the data request.

5. (Withdrawn) The method of claim 1 wherein providing the framed acoustic data comprises:

monitoring a fill level of a buffer at the client in which the framed acoustic data are stored;

changing a fill level flag whenever the fill level of the buffer crosses a buffer threshold, said fill level flag indicating an amount of data the client device will send in response to the data request, said amount of data being larger for a higher fill level than for a lower fill level; and

sending the fill level flag and the corresponding amount of data to the host device in response to the data request.

6. (Original) The method of claim 1 further comprising:

sending the data request to the client device;

receiving the framed acoustic data from the client device; and

checking for alignment errors among the framed acoustic data based on the alignment information.

7. (Original) The method of claim 6 wherein checking for alignment errors comprises:

identifying a frame boundary identifier among the framed acoustic data received from the client device;

determining a frame sequence number associated with the frame boundary identifier; and

validating data samples associated with the frame boundary identifier if the frame sequence number is an expected frame sequence number.

8. (Original) The method of claim 6 wherein checking for alignment errors comprises:

setting a current pointer to a current data sample among the framed acoustic data received from the client device;

comparing the current data sample to a particular data pattern; and

if the current data sample does not match the particular data pattern, incrementing the current pointer and returning to comparing the current data sample.

9. (Original) The method of claim 8 wherein checking for alignment errors further comprises:

if the current data sample matches the particular data pattern, setting a temporary pointer equal to the current pointer and incrementing the temporary pointer by a size of a frame of acoustic data;

comparing a data sample at the temporary pointer to the particular data pattern; and

if the data sample at the temporary pointer does not match the particular data pattern, incrementing the current pointer and returning to comparing the current data sample.

10. (Original) The method of claim 9 wherein checking for alignment errors further comprises:

if the data sample at the temporary pointer matches the particular data pattern, identifying a first sequence value associated with the current pointer and a second sequence value associated with the temporary pointer;

comparing the first sequence value to the second sequence value;

if the second sequence value does not follow the first sequence value in a predetermined sequence, incrementing the current pointer and returning to comparing the current data sample; and

if the second sequence value follows the first sequence value in the predetermined sequence, validating a frame worth of acoustic data samples

following the current pointer, incrementing the current pointer by the size of a frame of acoustic data, and returning to comparing the current data sample.

11. (Original) A client device comprising:

a controller to frame a stream of raw acoustic data at particular intervals with alignment information to create framed acoustic data; and

a buffer to store the framed acoustic data, said controller to wait for a data request from a host device, and provide the framed acoustic data to the host device in response to the data request.

12. (Original) The client device of claim 11 further comprising:

a sensor array to collect the stream of raw acoustic data, wherein said stream of raw acoustic data comprises pulse code modulation (PCM) data samples from a plurality of synchronously interleaved channels each corresponding to a different sensor in the sensor array.

13. (Withdrawn) The client device of claim 11 further comprising:

a fill monitor to monitor a fill level of the buffer as the framed acoustic data are stored, said controller to change a fill level flag whenever the fill level of the buffer crosses a buffer threshold, said fill level flag to indicate an amount of data the client device will send in response to the data request, said amount of data being larger for a higher fill level than for a lower fill level, and said controller to

send the fill level flag and the corresponding amount of data to the host device in response to the data request.

14. (Original) The client device of claim 11 further comprising:

a universal serial bus interface to couple the client device to the host device.

15. (Original) The client device of claim 11 further comprising:

an ultrasonic pen to generate an ultrasonic signal; and

a sensor array to capture the ultrasonic signal and convert it to the stream of raw acoustic data.

16. (Original) A host device comprising:

a controller to send a data request to a client device, said client device to frame a stream of raw acoustic data at particular intervals with alignment information to create framed acoustic data, store the framed acoustic data, and provide the framed acoustic data to the host device in response to the data request; and

an alignment unit to check for alignment errors among the framed acoustic data based on the alignment information.

17. (Original) The host device of claim 16 wherein the alignment unit comprises:

logic to identify a frame boundary among the framed acoustic data received from the client device;

logic to determine a frame sequence number associated with the frame boundary; and

logic to validate data samples associated with the frame boundary identifier if the frame sequence number is an expected frame sequence number.

18. (Currently Amended) The host device of ~~claim 15~~ claim 16 further comprising:

a graphical user interface having a pointer, a position of said pointer in the graphical user interface to be controlled by the stream of raw acoustic data.

19. (Original) A machine readable medium having stored therein machine executable instructions that, when executed, implement a method comprising:

sending a data request to a client device, said client device to frame a stream of raw acoustic data at particular intervals with alignment information to create framed acoustic data, store the framed acoustic data, and provide the framed acoustic data to the host device in response to the data request;

receiving the framed acoustic data from the client device; and

checking for alignment errors among the framed acoustic data based on the alignment information.

20. (Original) The machine readable medium of claim 19 wherein checking for alignment errors comprises:

identifying a frame boundary identifier among the framed acoustic data received from the client device;

determining a frame sequence number associated with the frame boundary identifier; and

validating data samples associated with the frame boundary identifier if the frame sequence number is an expected frame sequence number.

21. (Original) The machine readable medium of claim 19 wherein checking for alignment errors comprises:

setting a current pointer to a current data sample among the framed acoustic data received from the client device;

comparing the current data sample to a particular data pattern; and

if the current data sample does not match the particular data pattern, incrementing the current pointer and returning to comparing the current data sample.

22. (Original) The machine readable medium of claim 21 wherein checking for alignment errors further comprises:

if the current data sample matches the particular data pattern, setting a temporary pointer equal to the current pointer and incrementing the temporary pointer by a size of a frame of acoustic data;

comparing a data sample at the temporary pointer to the particular data pattern; and

if the data sample at the temporary pointer does not match the particular data pattern, incrementing the current pointer and returning to comparing the current data sample.

23. (Original) The machine readable medium of claim 22 wherein checking for alignment errors further comprises:

if the data sample at the temporary pointer matches the particular data pattern, identifying a first sequence value associated with the current pointer and a second sequence value associated with the temporary pointer;

comparing the first sequence value to the second sequence value;

if the second sequence value does not follow the first sequence value in a predetermined sequence, incrementing the current pointer and returning to comparing the current data sample; and

if the second sequence value follows the first sequence value in the predetermined sequence, validating a frame worth of acoustic data samples

following the current pointer, incrementing the current pointer by the size of a frame of acoustic data, and returning to comparing the current data sample.

24. (Original) A system comprising:

a universal serial bus client comprising a controller to frame a stream of raw acoustic data at particular intervals with alignment information to create framed acoustic data, and a buffer to store the framed acoustic data, said controller to wait for a data request from a host device, and provide the framed acoustic data to the host device in response to the data request; and

the host device comprising a controller to send the data request to the client device, and an alignment unit to check for alignment errors among the framed acoustic data based on the alignment information.

25. (Original) The system of claim 24 further comprising:

a universal serial bus interface to couple the client device to the host device.

26. (Original) The system of claim 24 further comprising:

an ultrasonic pen to generate an ultrasonic signal; and

a sensor array to capture the ultrasonic signal and convert it to the stream of raw acoustic data.